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Cooperative ECONOMIC INSECT REPORT

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PLANT PROTECTION DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PROTECTION DIVISION

ECONOMIC INSECT SURVEY AND DETECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM light trap counts high in Maryland, Nebraska, Ohio, and Wisconsin. (p. 507). ASTER LEAFHOPPER populations heavy and conditions present for aster yellows outbreak in Michigan. CORN EARWORM heavy on ensilage in parts of New Mexico, and heavy on peanuts in limited area of Alabama. (p. 491).

EUROPEAN CORN BORER larval damage severe in Sussex and Prince Edward Counties and peak moth emergence expected about mid-August on Eastern Shore of Virginia. Damage more severe this year than 1969 in Ohio. (p. 492). CORN ROOTWORMS damaged corn in portions of South Dakota and Minnesota. (p. 493).

ALFALFA WEEVIL damage severe on alfalfa in Bingham County, Idaho, and heavy on second-crop alfalfa in New Mexico. Controls applied in Wyoming. (p. 494).

BOLL WEEVIL conditions ideal for buildup in west Tennessee. Damaging numbers developed in south and central Alabama, and counts increased in south Georgia. (p. 495).

TORTRICID MOTHS heavily damaged 750,000 acres of forest trees in north-central Pennsylvania and FOREST TENT CATERPILLAR damaged about 156,000 acres of timber in southwest part of State. (p. 500). GYPSY MOTH defoliated about 8,000 acres of timber in eastern Pennsylvania. (p. 504).

Detection

For new county records see page 506.

Special Reports

Distribution of Alfalfa Weevil. Corrected and Revised Map. (p. 508).

Reports in this issue are for week ending July 10 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JULY 13

HIGHLIGHTS: Typical summer heat prevailed over much of the Nation. Scattered thundershowers, some locally heavy, occurred from the Rocky Mountains to the Atlantic Ocean.

PRECIPITATION: High pressure and mostly clear rainless skies prevailed over most of the Nation early in the week. Scattered thundershowers, some accompanied by hail and high winds, occurred across mid-America early Wednesday. At midweek nighttime and early morning showers fell across the warm, humid Southland and from the eastern Great Lakes to the Middle Atlantic States. Locally heavy showers occurred Thursday afternoon along the gulf and Atlantic coasts. Washington, D.C., National Airport received 4.69 inches Thursday afternoon and evening, flooding some roads and underpasses. Rainfall totals west of the Rocky Mountains were generally only a small fraction of an inch and many far-western stations received no rain. Heavier rains fell over the Great Plains with weekly totals mostly from 0.10 to 0.75 inch. The heaviest showers fell in southern Pennsylvania and nearby parts of Maryland and West Virginia with a number of locations receiving several inches of rain Thursday afternoon and evening and early Friday.

TEMPERATURE: High pressure brought mostly fair weather last week. Early morning temperatures ranged mostly from the 50's across the Northern States to the 70's across the South. Ocean breezes cooled the Pacific coast but hot afternoons, typical for this time of year, were general over inland portions of the Nation from the Canadian to the Mexican border. Temperatures reached 100° or higher in eleven States on Wednesday afternoon. Temperatures averaged slightly below normal along the Pacific coast, but several degrees above normal from southeastern Washington to the southwestern deserts. Near-normal weekly average temperatures occurred from the Great Basin to the middle Mississippi River. Most of the East averaged slightly cooler than normal. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - SOUTH DAKOTA - Most early generation larvae pupated. Moth flights heavy during late June and early July. If second-generation problems develop, they should occur in late July. Larval parasitism evident in numerous infested fields. (Jones).

ASTER LEAFHOPPER (*Macrosteles fascifrons*) - NEW YORK - Adults 154 per 400 sweeps in field of muckland carrots near Gorham, Ontario County, on July 2. Few nymphs collected; indicates eggs deposited and hatched on carrots. Controls applied before sweeps taken. (N.Y. Wkly. Rpt., July 6). MICHIGAN - Specimens collected on June 10 had aster yellows disease infectivity of 5-6 percent. Crop protection necessary this season. All ingredients for severe aster yellows outbreak present. Leafhopper population heavy. (Bath, July 6).

CORN EARWORM (*Heliothis zea*) - NEW MEXICO - Heavy on ensilage and home gardens in Eddy and Chaves Counties. (N.M. Coop. Rpt.). Ensilage corn in Union County shows heavy damage. Controls planned. (Zimmerman). TEXAS - Light on grain sorghum in most south-central counties. (Green). OKLAHOMA - Larvae ranged 0-4 per ear in 125 sweet corn ears in Mayes County. All ears showed present or past damage. Light damage to young ears of field corn noted in Nowata County. Moderate in corn in Craig County and light in Choctaw County. Occasional larva in sorghum in Craig and Mayes Counties and in soybeans in Tulsa and Craig Counties. (Okla. Coop. Sur.). KANSAS - Moths and larvae abundant, sweet corn needs watching. (Gates, July 7). ARKANSAS - *H. zea*, *Spodoptera frugiperda* (fall armyworm), and *Prodenia ornithogalli* (yellow-striped armyworm) destroyed terminals of small soybeans in Lonoke, Prairie, and Arkansas Counties. (Barnes). MISSOURI - *H. zea* damage showing on 22 to 68 percent of ears in 4 fields of early planted corn in southwest area. Larvae full grown with some pupation noted. (Munson). ALABAMA - Late instars very heavy on most peanut plants in large field in Crenshaw County. Regular control efforts failed but were to continue with change of insecticides. (Smith, Bond). MICHIGAN - First adult for season collected June 26 at Van Buren County station. About 2 months ahead of heavy dispersal flight. (Newman, July 6).

CORN LEAF APHID (*Rhopalosiphum maidis*) - UTAH - Very light on north area field corn. (Knowlton). COLORADO - Ranged 0-300 per sorghum plant in Cheyenne, Kit Carson, and Yuma Counties. Noneconomic. (Johnson). NEW MEXICO - Generally moderate to heavy on grain sorghum in south area. Some controls applied on older grain sorghum. (N.M. Coop. Rpt.). TEXAS - Light to heavy in grain-producing areas throughout State, but limited economic damage anticipated. (Daniels et al.). OKLAHOMA - Ranged 0-150 per plant in most sorghum checked in northeast area. Ranged up to 700 per plant in few fields. (Okla. Coop. Sur.). MISSOURI - Light on small grain sorghum in southwest area. Ranged 5-20 per plant in infested fields. (Munson, July 4). INDIANA - Infested one-third of corn sampled in southern quarter of State. Four to 20 percent of plants had colonies ranging from 25 or less to heavy tassel and whorl coverage. (Meyer). WISCONSIN - Small colonies in many southern cornfields. Lady beetles preying on aphids. (Wis. Ins. Sur.). MARYLAND - Heaviest near Tolchester, Kent County; one field 5 percent infested. (U. Md., Ent. Dept.).

GREENBUG (*Schizaphis graminum*) - TEXAS - Light to moderate in south-central, blackland, panhandle, and Trans-Pecos regions. Light in Grimes, Lee, Comal, Bastrop, Guadalupe, Denton, Collins, El Paso, Hudspeth, Reeves, and Pecos Counties. Colonies ranged 5-500 aphids on grain sorghum in Randall, Deaf Smith, Castro, Parmer, Bailey, Cochran, Yoakum, Gaines, Dawson, Terry, Hockley, Lamb, Oldham, Potter, Swisher, Hale, Lubbock, Lynn, Crosby, Floyd, and Briscoe Counties. (Cole et al.). OKLAHOMA - Counts vary considerably in grain sorghum in northeast area. Ranged 150-600 on most heavily infested leaves; most plants infested to some extent in some fields. Other fields ranged almost zero to 30 per leaf with only occasional plants infested. Ranged up to 300 per plant in few fields in Payne County. (Okla. Coop. Sur.). NEW MEXICO - Most grain sorghum fields show very light populations with heavier populations in isolated areas. (N.M. Coop. Rpt.). COLORADO - Ranged 0-150 per sorghum plant in Cheyenne, Kit Carson, and Yuma Counties. Damage very light. (Johnson).

POTATO LEAFHOPPER (*Empoasca fabae*) - MISSOURI - Ranged 40-300 per 10 sweeps in alfalfa in west-central and southwest areas. Yellowing of alfalfa due to feeding and dry weather noted throughout these areas. (Munson). WISCONSIN - Ranged 1-4 per linear foot of beans and potatoes. Averaged 1-2 per sweep of alfalfa. (Wis. Ins. Sur.). MARYLAND - Heaviest, 2-11 per sweep in 11-acre alfalfa field, near Frederick, Frederick County. Up to 5 per sweep in clover and alfalfa statewide. (U. Md., Ent. Dept.).

HORNWORMS (*Manduca* spp.) - OKLAHOMA - *M. sexta* (tobacco hornworm) mostly last instars, causing moderate damage to commercial tomatoes checked in Tulsa County. (Okla. Coop. Sur.). TENNESSEE - *M. sexta* larvae caused light damage to tobacco in most areas. Controls effective when applied in time. (Gordon). MICHIGAN - First collections of *M. quinquemaculata* (tomato hornworm) and *M. sexta* for season on June 20 at Van Buren County station. Collected 10 specimens past week. Dispersal and egg laying will begin July 2. (Newman).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NEW HAMPSHIRE - First-generation adults still laying eggs, probably due to cool nights, at Durham, Strafford County. (Conklin). VIRGINIA - Larval damage severe in Sussex and Prince Edward Counties, and light in Carroll County. Damage varies throughout State. (Allen). Moth emergence on Eastern Shore heavy but tapered off from peak about July 4. Next peak should occur about mid-August. (Hofmaster). OHIO - Damage more severe than in 1969. Estimated 50-75 percent of early planted field and sweet corn needed treatment. Weather good for larval development and survival. (Musick). MICHIGAN - Adult emergence continues at all blacklight stations. Counts by county for week ending June 29: Lenawee 46, Livingston 37, Van Buren 36, Montcalm 38. Continued emergence pattern will extend egg laying to end of July. Surveys indicate much boring in sweet and field corn. Second-brood populations will be near or slightly above levels of 1969. (Newman, July 5). INDIANA - Range per 100 corn plants by district: South-southcentral 0-240 (averaged 57) larvae on 0-84 (averaged 28) percent of corn plants, south-southwest 0-80 (averaged 9.6) on 0-80 (averaged 14) percent, and south-southeast 0-2 (averaged 1) on 0-4 (averaged 2) percent. Corn conditions, with appropriate weather, favor heavy second generation. (Meyer). ILLINOIS - Percent pupation by district: Southwest 37, southeast 35, and west-southwest 14. Emergence 4 percent in Gallatin County. (Ill. Ins. Rpt.). WISCONSIN - Second and third instars in most fields of sweet corn. Feeding injury light generally, but 25 percent or more injury in several fields of sweet corn in south-central counties. Treatment of sweet corn underway at several sites. (Wis. Ins. Sur.). MINNESOTA - Egg masses still found in southwest, southeast, south-central, and west-central districts. (Minn. Pest Rpt.). SOUTH DAKOTA - Infestations averaged 80 percent in corn checked in Union County and southern Lincoln County; ranged 50-60 percent in northern Lincoln County and southern Minnehaha County. Ranged 30-40 percent in one field near Brookings, Brookings County. Eggs on 2 percent of corn plants near Garden City, Clark County. (Fransen et al.). IOWA - Larvae 96 per 100 tasseled corn plants in 54 percent of plants surveyed July 7 between Storm Lake, Buena Vista County, and Ames, Story County. (Iowa Ins. Sur.). MISSOURI - Infestations ranged 20-100 percent on silking corn, 1-4.5 borers per plant, in southwest area. Larvae mostly full grown and very high percentage in stalks as of July 4. Currently, pupation 48 percent in 4 fields of early planted corn in southwest area. Few second-generation moths noted in grass around these fields. (Munson).

SUGARCANE BORER (*Diatraea saccharalis*) - TEXAS - Heavy in corn in Brazoria County. Up to 30 percent of stalks lodged on one farm. (Green).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - Adults ranged 1-15 per corn plant in one area of Jasper County; only infestation noted in southwest area. Larval damage very light throughout area. (Munson). SOUTH DAKOTA - Adults observed for first time this season near Oral, Fall River County, on July 1. (Jones). WYOMING - Larvae ranged 0-16 (averaged 6) per corn plant in Goshen County field. Mainly second instar with few third. Corn wilting where infestation heaviest. (Parshall, July 3).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - First adults of season observed in Fayette County July 2. (Musick). INDIANA - Pair mating, only adults so far, in Orange County cornfield July 7. Corn in green silk. (Meyer).

CORN ROOTWORMS (Diabrotica spp.) - WASHINGTON - Larvae infested 50 acres of forage corn at Montesano, Grays Harbor County. (Moulton, Pennell). SOUTH DAKOTA - Extensive damage to corn reported in untreated fields near Vermillion, Clay County, and near Flandreau, Moody County. One field near Flandreau treated with unrecommended material at planting time and extensively damaged. Emergency treatments applied to some fields. (Kantack). MINNESOTA - Root damage more evident in fields scattered throughout southwest, south-central, and central districts. In one Wright County field, stunted corn plants seen. Over 30 larvae per plant in individual plants in this field. Larval count per plant: Martin County, 2 fields 3-8; Watonwan, 2 fields 2-5; Rock, 3 fields 5-9; Pipestone, 1 field 4; Jackson, 1 field 3-8; Murray, 2 fields 1-6; Wright, 4 fields 4-30. Instars first to third in areas surveyed. (Minn. Pest Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Adults continue active statewide. Numbers and damage heaviest in Frederick, Carroll, and Howard Counties. Heaviest in 18 acres of field corn near Mt. Airy, Frederick County. (U. Md., Ent. Dept.).

DUSKY SAP BEETLE (Carpophilus lugubris) - MARYLAND - Continues to increase. Infested up to 50 percent of sweet corn ears in field near Cordova, Kent County. (U. Md., Ent. Dept.).

SORGHUM MIDGE (Contarinia sorghicola) - ARKANSAS - Averaged 2 per sorghum plant, heaviest 7 per head, in Lee County field. Field treated. (Kimbrough). TEXAS - Heavy in late-planted grain sorghum in Jackson County near Edna. Generally very light from other grain-producing areas. (Thomas et al.).

FALSE CHINCH BUG (Nysius ericae) - TEXAS - Heavy on sorghum in Bee, Gonzales, Guadalupe, Hays, Victoria, and Wilson Counties. (Cole). Scattered in grain sorghum throughout north-central areas. (Turney).

SLUGS - NEW HAMPSHIRE - Ragged leaves in 5-acre cornfield on upland area at Landaff, Grafton County. Slugs forming complete mat in some places. Numbers probably due to plowing under of sod and grass food source of slugs. Calosoma calidum (fiery hunter) very numerous and feeding on slugs. (Conklin).

WIREWORMS (Limonium spp.) - NEW HAMPSHIRE - Larvae 3-20 per plant in field of silage corn in Grafton County; stand very uneven. (Conklin).

TURF, PASTURES, RANGELAND

GRASSHOPPERS - ILLINOIS - Nymphs heavy on roadside grass in all counties surveyed. Range (and average) per 100 sweeps by district: West-southwest 100-3,000 (1,350), east-southeast 300-1,300 (750), southeast 100-1,800 (750), and southwest 50-1,500 (560). (Ill. Ins. Rpt.). FLORIDA - Schistocerca obscura moderate on grasses and weeds at Belle Glade, Palm Beach County; less numerous than in 1969. (Genung).

FORAGE LEGUMES

ALFALFA WEEVIL (*Hypera postica*) - IDAHO - Estimated 15-150 per sweep in alfalfa field west of Springfield, Bingham County. Damage severe, almost frosty. (Carpenter). UTAH - Larval damage to second crop decreased, but untreated alfalfa held back. (Knowlton). Adults numerous at Blanding, Wayne County. (Roberts). NEW MEXICO - Heavy on second-crop alfalfa in Bernalillo and Santa Fe Counties. (Heninger, Chaves). WYOMING - Still up to 72 larvae per sweep. Many prepupae. Averaged 9-11 larvae per sweep in 3 fields in Goshen and Platte Counties. (Burkhardt). Ranged 2-50 per 10 sweeps of second-cutting alfalfa in Weston, Crook, Campbell, Johnson, and Sheridan Counties. Many fields treated, especially in Crook and Sheridan Counties. (Parshall). SOUTH DAKOTA - Up to 146 larvae and 4 adults per 100 sweeps in second-growth alfalfa near Spearfish, Lawrence County. (Jones). MINNESOTA - Found in Fillmore and Wabasha Counties for new county records by E.B. Radcliffe. (Minn. Pest Rpt.). MISSOURI - Adults collected in Platte County on June 24 by L.P. Burgess. This is a new county record. (Munson). MASSACHUSETTS - Adults 5 and larvae 6 per 100 sweeps of alfalfa in Hampshire County field July 6. (Miller). VERMONT - Larvae and damage declining. Most pupating. Parasite recovery and emergence still very low in areas sampled. Generally less than 1-2 percent total parasitism by *Bathyplectes curculionis* (an ichneumon wasp), *B. anura*, and *Tetrastichus* sp. (a eulophid wasp). (Nielsen).

PEA APHID (*Acyrtosiphon pisum*) - NEVADA - Ranged 35-50 per sweep in alfalfa hayfields in Diamond Valley, Eureka County. (Martinelli). NEW MEXICO - Heavy on alfalfa in Bernalillo and Valencia Counties. (Heninger). WYOMING - Counts declined, ranged 30-45 per sweep on July 3, in Big Horn Basin. Ranged 50-200 (averaged 100) per sweep in Goshen County field. (Burkhardt). Ranged 10-260 per 10 sweeps of alfalfa in Crook, Weston, Campbell, Johnson, and Sheridan Counties. (Parshall). WISCONSIN - Still heavy, 100 per sweep of alfalfa common, except in southwest counties where numbers lighter. (Wis. Ins. Sur.). MASSACHUSETTS - Adults 925 per 100 sweeps of alfalfa in Hampshire County field. (Miller). MARYLAND - Remained light statewide. Up to 200 per sweep in 40-acre alfalfa field near Chestertown, Kent County. (U. Md., Ent. Dept.).

ALFALFA PLANT BUG (*Adelphocoris lineolatus*) - MASSACHUSETTS - Adults 84 per 100 sweeps of alfalfa in Hampshire County field. (Miller). WYOMING - Adults and nymphs ranged 0-17 per 10 sweeps of alfalfa in Crook, Johnson, Weston, Campbell, and Sheridan Counties. (Parshall).

LYGUS BUGS (*Lygus* spp.) - NEVADA - Up to 8 nymphs and 4 adults per sweep in untreated alfalfa seed fields and fields treated with one organic phosphate in Reese River Valley, Lander County. Another organic phosphate keeping populations below economic levels. (Hilbig). UTAH - Controls applied to many alfalfa seed fields in Uintah and Millard Counties. (Knowlton). Numerous on alfalfa at Hanksville, Wayne County. (Roberts). WYOMING - *Lygus* sp. ranged 9-11 per sweep of alfalfa in Big Horn Basin July 3. (Burkhardt). Ranged 5-30 per 10 sweeps of alfalfa in Crook, Weston, Campbell, Johnson, and Sheridan Counties. (Parshall). MASSACHUSETTS - Adults of *L. lineolaris* (tarnished plant bug) 122 per 100 sweeps of alfalfa in Hampshire County. (Miller).

GARDEN FLEAHOPPER (*Halticus bracteatus*) - MARYLAND - Adults and nymphs on alfalfa and red clover statewide. Damage extensive to 45 acres of red clover at Galena, Kent County, and Bloomingdale, Queen Annes County. Ranged 100-200 per sweep. (U. Md., Ent. Dept.).

SPIDER MITES (*Tetranychus* spp.) - NEVADA - Heavy; damage ranged 30-40 percent on 2,000 acres of alfalfa hay at Lovelock, Pershing County. Severely damaged lower third of plants and harvesting equipment covered with mites and webbing. (Martinelli).

LEAF MINER FLIES (Agromyza spp.) - MASSACHUSETTS - Adults 2,909 per 100 sweeps of alfalfa in Hampshire County field. (Miller).

SOYBEANS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Larvae in many young soybeans in Excel area of Monroe County. About 15 percent of stand lost in one 80-acre field. (Lemons).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Damaged young soybean plants in southern Tulsa County. Feeding at or below ground level, mostly on stems. Ranged up to 1 per 2 plants in heaviest spots. Light damage also seen in southern Mayes County. (Okla. Coop. Sur.).

PEANUTS

BET ARMYWORM (Spodoptera exigua) - ALABAMA - Larvae very heavy, ranged 15-20 per plant, in large peanut field in Coffee County. Controls impossible. (Presley, Bond).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Moderate in Okmulgee County peanuts. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Moderate in many peanut fields in Bryan County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - NEW MEXICO - Surveys of wing traps in Lea County negative. (Bauer). TEXAS - In McLennan and Falls Counties, weevils remain light, except in some fields due to "hatch out" of new generation. Punctured squares averaged 3.1 (maximum 21) percent in 21 treated fields; averaged 5.9 (maximum 35) percent in 46 untreated fields. (Cowan et al.). LOUISIANA - In Madison Parish, 6 weevils collected from 146 wing traps, total to date 1,699. Punctured squares ranged 1-15 (averaged 4.1) percent in 50 of 66 fields. (Cleveland et al.). Expect emergence from squares on ground July 20-24. (Tynes). ARKANSAS - Light in most fields. Infested 1,574 out of 6,241 fields checked. Most below 10 percent punctured squares and 10 fields need treatment. As weevil emergence increases more fields expected to need controls. Collections on 10 pheromone-baited wing traps in Conway County total 228 as of July 2. (Boyer, Barnes, et al.). TENNESSEE - Conditions ideal for weevil buildup in west area. Averaged 3 percent punctured squares for fields found infested. Some dead larvae found, probably due to hot, dry weather. First-generation "hatch out" should begin within 14 days. (Locke). MISSISSIPPI - No weevils found in delta counties. Punctured squares in 3 of 12 fields checked. (Pfrimmer et al.). ALABAMA - Damaging numbers developed in most cotton fields in south and most of central areas. (McQueen). GEORGIA - Increasing over south area, first-generation weevils puncturing squares. (Womack). For Boll Weevil on High Plains see page 504.

BOLLWORMS (Heliothis spp.) - TEXAS - In McLennan and Falls Counties, averaged 2.8 eggs and 1.1 larvae per 100 terminals (maximum 44 eggs and 18 larvae) in 21 treated fields. Averaged 1.4 eggs and 0.2 larva per 100 terminals in 47 untreated fields. Injured squares averaged 1.6 (maximum 6) percent in 21 treated fields, averaged 0.9 (maximum 3.5) percent in 47 untreated fields. Injured bolls averaged 1.3 (maximum 2.9) percent in 12 treated fields, averaged 0.4 (maximum 1.8) percent in 36 untreated fields. Total of 218 larvae collected on cotton; 85 percent identified H. virescens. (Cowan et al.). LOUISIANA - In Madison Parish, damaged squares ranged 1-9 (averaged 3.8) percent in 62 of 74 fields. Blacklight trap collections include 12 H. zea but no H. virescens. (Cleveland et al.). MISSISSIPPI - In delta counties, no larvae found in terminals of 12 fields checked. Eggs in 2 fields, 2.7 per 100 terminals in 1 field, and 1.3 in other. Injured squares averaged 4.9 (maximum 12.7) percent in 10 of 12 fields. (Pfrimmer et al.). TENNESSEE - Few eggs found. Larvae up to one-half inch long numerous

throughout west area. Majority of fields infested above control levels. Larvae ranged 1-16 (average 3) per 100 terminals. Considerable damage expected where controls not applied or where applied late. (Locke). ALABAMA - Moth flights and egg laying lowest of season throughout State. Larval problems and economic numbers reported on few farms in south areas after first and second applications of insecticides to control boll weevil. Egg laying had been heavy in central and north areas, predator and parasitic insects maintained low larval counts, and no damaging infestations reported. (McQueen). GEORGIA - Egg and larval infestations heavy (up to 120 eggs and 28 larvae per 100 terminals) over south areas, most larvae H. virescens. (Womack).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Small numbers in squaring cotton; however, no significant buildups noted. Insecticidal control should be based on numbers and damage determined by excessive loss of small squares. (Clymer, Rummel).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Increased in Charles, St. Marys, Calvert, and Prince Georges Counties. Infested 1-10 plants per 50 plants checked. (U. Md., Ent. Dept.).

POTATOES, TOMATOES, PEPPERS

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Building up on peppers in Dorchester and Somerset Counties. Infested 2-6 plants per 50 plants. (U. Md., Ent. Dept.). WASHINGTON - Nymphs and winged adults in 13 of 24 potato seed fields at Lynden, Custer, and Bellingham in Whatcom County. (Holmes).

BUCKTHORN APHID (Aphis nasturtii) - MAINE - Colonies range 1-77 on 94 potato plants out of 1,550 untreated plants at Presque Isle, Aroostook County. (Boulanger).

POTATO APHID (Macrosiphum euphorbiae) - MAINE - Colonies ranged 1-10 on 208 potato plants out of 1,500 untreated plants in Aroostook County. Of 537 aphids, 12 parasitized. (Boulanger).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - Continues to damage potato, and sometimes tomato foliage, throughout Davis, Weber, Box Elder, and Cache County fields and home gardens. (Knowlton).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - Adults heavy on beans and peas in Johnson County. Eggs very heavy. Damage light at this time, increase expected unless controls applied. (Gordon). WYOMING - Averaging 1 per linear foot of Goshen County beans. (Burkhardt). UTAH - Lighter than in 1969 in Cache County home gardens. (Knowlton).

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Counts on peas ranged 5-75 (averaged about 20) per sweep. (Wis. Ins. Sur.).

GENERAL VEGETABLES

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - MARYLAND - Adults light. Root injury by second-generation larvae evident at Salisbury, Wicomico County. Controls planned. (U. Md., Ent. Dept.).

DECIDUOUS FRUITS AND NUTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - UTAH - Two moths per night in traps in Utah County. (Davis). COLORADO - Adults (split July brood) peaked in early July, ranged 1-36 in traps at Vineland and Palisade in Mesa County. Biological and spray controls effective in most peach orchards. (Sisson, Anderson). NEW JERSEY - Four adults in baited jar in Gloucester County June 30 to July 6. (Ins.-Dis. Newsltr.).

CODLING MOTH (Laspeyresia pomonella) - UTAH - Moderate in Washington County orchards. (Huber). NEW YORK - Fruit injury in several commercial orchards in Monroe and Orleans Counties. (N.Y. Wkly. Rpt., July 6).

APPLE-AND-THORN SKELETONIZER (Anthophila pariana) - OREGON - Adults emerged week of July 3 from pupae collected June 28 on untreated apple at south Salem, Marion County. (Westcott).

TORTRICID MOTHS - PENNSYLVANIA - Catch of 2,315 Archips argyrospilus (fruit-tree leaf roller) moths June 24 in 317-watt blacklight trap in Schuylkill County. Catch of 210 June 29 in 15-watt blacklight trap in Dauphin County; also collected 752 A. semiferranus. (Quinter, Simons). NEW YORK - Argyrotaenia velutinana (red-banded leaf roller) flying in west area apple orchards. (N.Y. Wkly. Rpt., July 6).

APPLE MAGGOT (Rhagoletis pomonella) - NEW JERSEY - Two adults on 2 sticky boards in Gloucester County June 30 to July 6. (Ins.-Dis. Newsltr.). CONNECTICUT - Adults increased from 13 last week to 163 this week. Count should increase greatly next 14 days. Most females captured at New Haven, New Haven County, contained fully developed eggs. (Savos, July 7). NEW YORK - Emergence increased steadily past 14 days in Monroe and Orleans Counties. (N.Y. Wkly. Rpt., July 6). MICHIGAN - Increased in unsprayed orchards. (Thompson, July 6). WISCONSIN - Heaviest adult catch (65) June 25 to July 3 at Madison, Dane County. (Wis. Ins. Sur.). MINNESOTA - First adults July 3 at Rochester, Olmsted County, and July 9 at North Saint Paul, Ramsey County. (Minn. Pest Rpt.).

CHERRY FRUIT FLY (Rhagoletis cingulata) - MICHIGAN - Adults still abundant. Egg laying heavy and will be throughout harvesting period. First-harvested orchards likely to shift fly migrations into unpicked cherries. (Thompson, July 6).

PEAR-SLUG (Caliroa cerasi) - COLORADO - Damage heavy in young, poorly sprayed pear orchards in Mesa County and beginning in unsprayed sweet cherries at Glenwood Springs, Garfield County. Foliar loss 10-25 percent. (Sisson).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - CALIFORNIA - About 500 per Prunus spp. limb at Chico, Butte County. (Cal. Coop. Rpt.). UTAH - Damaged several small peach and apple orchards in Weber and Salt Lake Counties. (Knowlton).

APPLE APHID (Aphis pomi) - CONNECTICUT - Building up at Storrs, Tolland County, but under control in most spots. (Savos, July 7). NEW YORK - Very abundant. Peach X-disease evident where aphids present in Ulster, Dutchess, and Orange Counties. (N.Y. Wkly. Rpt., July 6). MICHIGAN - Numerous colonies on water sprouts and new terminal growth of apples. (Thompson, July 6).

WOOLLY PEAR APHID (Eriosoma pyricola) - OREGON - Alate migration nearly completed in pear orchards at Medford, Jackson County. (Swenson).

SPIDER MITES - OREGON - Tetranychus urticae (two-spotted spider mite), Eotetranychus carpini, and Panonychus ulmi (European red mite) building up to epidemic proportions due to prolonged hot weather in Jackson County pear orchards. (Berry). UTAH - P. ulmi only damaging species in Utah County orchards. (Davis).

MICHIGAN - Panonychus ulmi heavy in many locations surveyed. Deposited another generation of eggs. Extreme temperatures of last few days shortened life cycle. (Thompson, July 6). OHIO - P. ulmi heavy on apple leaves in Hamilton County orchards. (Roach). CONNECTICUT - P. ulmi still heavy at New Haven, New Haven County. Need attention at East Lyme, New London County. (Savos, July 7). MASSACHUSETTS - P. ulmi counts per 50 apple leaves in Hampshire County: 169 on Delicious and 572 on McIntosh with no dormant oil or treatment, and 87 on Delicious and 276 on McIntosh with dormant oil but no treatment. (Jensen).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Second-generation adults emerging in south-central and central areas. Peak emergence expected July 13-22. (Green). OKLAHOMA - Second generation heavy on pecans in Bryan County. First-generation pupae and newly emerged adults noted in Tulsa County. (Okla. Coop. Sur.). NEW MEXICO - Damaged home-planted pecans and some commercial orchards at Artesia, Eddy County. (Campbell).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Moderate to heavy on pecans in Cleveland, Marshall, and Bryan Counties. Light to moderate in Tulsa, Rogers, Osage, and Pawnee Counties. (Okla. Coop. Sur.). NEW MEXICO - Webs appearing on Dona Ana County pecans. (Campbell).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Adults began emerging in mid-June and now increasing. Treatment will probably begin next 14 days, but timing may be critical. (Cal. Coop. Rpt.).

CITRUS

Citrus Insect Situation in Florida - End of June - CITRUS RUST MITE (Phyllocop-truta oleivora) infested 70 (norm 51) percent of groves; economic in 44 (norm 29) percent. Will continue at above normal level through July. Highest districts west, central, east, and south. CITRUS RED MITE (Panonychus citri) in 75 (norm 68) percent of groves; economic in 49 (norm 43) percent. In high range but will start downward trend in mid-July. All districts high. TEXAS CITRUS MITE (Eutetranychus banksi) in 56 (norm 77) percent of groves; economic in 36 (norm 56) percent. Rapidly entering high range and will continue through July, then diminish by month's end. Highest districts south, east, and central. GLOVER SCALE (Lepidosaphes gloverii) in 91 (norm 86) percent of groves; economic in 18 (norm 32) percent. Remains near normal; will show decrease at end of July. Highest district south. PURPLE SCALE (L. beckii) in 69 (norm 80) percent of groves; economic in 7 (norm 13) percent. YELLOW SCALE (Aonidiella citrina) in 62 (norm 70) percent of groves; economic in 7 (norm 12) percent. CHAFF SCALE (Parlatoria pergandii) in 49 (norm 72) percent of groves; economic in 1 (norm 17) percent. These 3 scales remain close to moderate level. Slight decrease expected. BLACK SCALE (Saissetia oleae) in 68 (norm 83) percent of groves; economic in 46 (norm 62) percent. Increased rapidly but still below normal high level for this date. Further increase expected. Highest districts east, south, west, and central. North district continues low. An ARMORED SCALE (Unaspis citri) in 26 percent of groves; moderate or heavy in 16 percent. Increase expected. WHITEFLIES in 89 percent of groves; economic in 53 percent. Larval and adult forms above 18-year record high. All forms will continue high through July. All districts high. MEALYBUGS in 76 percent of groves; economic in 38 percent. Recent rapid increase brought population above normal; further increase anticipated until mid-July. Highest districts east, south, west, and central. (W.A. Simanton (Citrus Expt. Sta., Lake Alfred)).

GLOVER SCALE (Lepidosaphes gloverii) - FLORIDA - Found on sweet orange at Ft. Lauderdale, Broward County, by G.T. Smith and W.S. Shirley June 23. This is a new county record. (Fla. Coop. Sur.).

PURPLE SCALE (Lepidosaphes beckii) - FLORIDA - Found on sweet orange at Ft. Lauderdale, Broward County, by G.T. Smith and W.S. Shirley June 23. This is a new county record. (Fla. Coop. Sur.).

YELLOW SCALE (Aonidiella citrina) - FLORIDA - Adults light on sweet orange at Royal Palm Beach, Palm Beach County. Collected by L.J. Chambliss and J.B. Venable July 2. This is a new county record. (Fla. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Ranged 100-150 per lemon fruit, 5-6 per orange, and 10-12 per Minneola tangelo fruit at Tacna, Yuma County. Predacious tydeid mites present. (Ariz. Coop. Sur.).

SMALL FRUITS

STRAWBERRY CROWN MOTH (Ramosia bibionipennis) - CALIFORNIA - Larvae 1 per crown in scattered raspberry plants in planting at Lodi, San Joaquin County. (Cal. Coop. Rpt.).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - NEW JERSEY - Eggs on early drawn cranberry bogs. (Ins.-Dis. Newsltr.).

BLUEBERRY MAGGOT (Rhagoletis mendax) - MAINE - Adult emergence from cages July 4-7, respectively 6, 10, 37, and 51, at Jonesboro, Washington County. (Boulanger).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - TEXAS - Heavy on juniper and cedar trees in Brazos, Washington, and Lee Counties. (Green).

ROSE CHAFER (Macrodactylus subspinosus) - WISCONSIN - Damaging ornamental plants in Wood, Adams, and Chippewa Counties. (Wis. Ins. Sur.).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - Adults severely damaged zinnia in field at Central Point, Jackson County. Plants in early bloom week of July 3. (Berry).

HOLLYHOCK WEEVIL (Apion longirostre) - VIRGINIA - Adults collected on hollyhock in Sussex County by H.H. Wright July 3. Determined by W.A. Allen. This is a new county record. (Allen).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - MARYLAND - Adults active in Montgomery, Howard, Baltimore, and Prince Georges Counties. Adult injury light to moderate on 60 feet of privet hedge at Greenbelt, Prince Georges County. (U. Md., Ent. Dept.).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - ALABAMA - Very heavy on most rain-trees on Dauphin Island in Mobile County. Entire trunk of some trees white with scales. Many small trees dying. (Seibels).

FLETCHER SCALE (Lecanium fletcheri) - RHODE ISLAND - Heavy in many nurseries statewide. (Relli). WISCONSIN - All eggs hatched; crawlers settled on arborvitae in Dane County. (Wis. Ins. Sur.).

FOUR-LINED PLANT BUG (Poecilocapsus lineatus) - NEW JERSEY - Building up on coleus, snapdragons, forsythia, English ivy, geranium, and gladiolus at Plainfield and Springfield, Union County. (Ins.-Dis. Newsltr.).

SPRUCE SPIDER MITE (Oligonychus ununguis) - OHIO - Populations exploded past 10 days, much heavier this year than in previous 2 years. Also earlier this year and reported statewide on Norway, white, Engelmann, and Colorado spruce. (Balderston).

FOREST AND SHADE TREES

DOUGLAS-FIR BEETLE (Dendroctonus pseudotsugae) - OREGON - Beginning to infest Douglas-firs damaged during winters of 1968 and 1969 in Hood River Valley. Strong potential for future outbreak. (Orr).

WHITE-PINE WEEVIL (Pissodes strobi) - NEW JERSEY - Increase of problems on white pine and Norway spruce trees. (Ins.-Dis. Newsltr.) - CONNECTICUT - Injury becoming noticeable on white pine and Norway spruce. (Savos, July 8). RHODE ISLAND - Extensive damage to Norway spruce. (Field). VERMONT - Damage very conspicuous on ornamentals. (Nielsen, July 8).

PINE TUSSOCK MOTH (Dasychira plagiata) - MINNESOTA - In fifth and sixth instars in east-central area. Defoliation lighter than expected, but some defoliation will be apparent in tops of jack pines in scattered locations in north Pine County. (Minn. Pest Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - VERMONT - Adults still emerging at Burlington, Chittenden County. (Nielsen, July 8).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MINNESOTA - Fourth and fifth instars heavy on jack pine plantation in east Washington County. (Minn. Pest Rpt.).

TORTRICID MOTHS - WYOMING - Archips argyrospilus (fruit-tree leaf roller) larvae heavy on chokecherry at Sheridan, Sheridan County; Buffalo, Johnson County; and Newcastle, Weston County. (Parshall). PENNSYLVANIA - Outbreak of mostly Archips semiferanus heavily to completely stripped oak foliage on about 750,000 acres in north-central counties. Damage most severe in west Lycoming, Clinton, south Potter, south Elk, north Clearfield, and west Centre Counties. First year Potter County infested; 50,000 acres of red oak defoliated. Defoliated nearly all oaks at higher elevations in Clinton County north of Lock Haven. (Nichols, Quimby, June 30). Caught 6,477 Croesia semipurpurana (oak leaf tier) moths in 317-watt blacklight trap June 24 in Schuylkill County and 514 in 15-watt blacklight trap in Dauphin County June 29. (Quinter, Simons).

FOREST TENT CATERPILLAR (Malacosoma disstria) - PENNSYLVANIA - Numbers 10 times higher than in 1969. Moderately to completely defoliated about 100,000 acres. Damage apparent on oak and sugar maple over wide areas of Somerset, Indiana, and Cambria Counties and smaller areas in Westmoreland, Clearfield, and Bedford Counties. Defoliated 46,000 acres in Indiana County and 10,000 acres for second year in south Somerset County. (Nichols, Quimby, June 30). MINNESOTA - Defoliation of aspens ranged 60-100 percent in large northeast area of Koochiching County, 40-90 percent of mixed hardwoods, mostly basswood, on about 100 acres adjacent to Battle Lake and Clitherall Lake in Otter Tail County, and averaged 70 percent, mostly on elm, on about 100 acres adjacent to Lobster Lake in Douglas County. Mainly Sarcophaga aldrichi (a flesh fly) parasitized 59.6 percent of 408 cocoons collected near International Falls, Koochiching County. (Minn. Pest Rpt.).

NOTODONTID MOTHS (Heterocampa spp.) - ARKANSAS - H. manteo (variable oak leaf caterpillar) infestations in Pulaski, Faulkner, Cleburne, Craighead, Poinsett, and Phillips Counties. (Warren). MICHIGAN - Most H. guttivitta (saddled prominent) larvae in second instar with several in third in Manistee County. Serious larval damage will be visible in 7-10 days. (Wallner, July 6).

MIMOSA WEBWORM (Homadaula anisocentra) - ALABAMA - Larvae increased on Dauphin Island, Mobile County. Defoliated 75 percent of most trees by July 4. Will probably defoliate all within 2 weeks. Only destroyed 5-10 percent of leaves on scattered trees farther north in Bibb, Montgomery, Autauga, Shelby, Talladega, and Tallapoosa Counties. (Seibels et al.).

OAK SKELETONIZER (Bucculatrix ainsliella) - MASSACHUSETTS - Larval damage evident in many areas of Suffolk, Middlesex, Hampshire, and Hampden Counties. (Garland, Jensen).

ELM LEAF BEETLE (Pyrrhalta luteola) - UTAH - Injury increasing in Emery County and becoming conspicuous in parts of Salt Lake and Weber Counties. (Knowlton). COLORADO - Larvae heavy throughout Delta County. Up to 50 percent defoliation in some cases. (Sisson). NEW MEXICO - Heavy on Siberian elms in Bernalillo and Valencia Counties. (Heninger). TEXAS - Larvae damaged Chinese elms in Hardin County. (Coster). ALABAMA - Second-generation larvae half to three-fourths grown. Defoliated many ornamental elms in Dallas, Lee, Montgomery, Bibb, and other central counties. (Hines et al.).

CHRYSOMELID BEETLES - TENNESSEE - Xenochalepus dorsalis (locust leaf miner) damage to locust continues heavy in central area. Damage in east increasing and expected to increase for some time. (Gordon). NEW JERSEY - Plagiodera versicolora (imported willow leaf beetle) adults common on weeping willow in central counties. (Ins.-Dis. Newsltr.). NEW HAMPSHIRE - P. versicolora adults and larvae severely damaged ornamental weeping willow at Concord, Merrimack County. (Mason, Hutchins).

CERAMBYCID BEETLES - MASSACHUSETTS - Complaints of Elaphidionoides villosus (twig pruner) larval damage numerous in Suffolk and Middlesex Counties. (Garland). WISCONSIN - Megacyllene robiniae (locust borer) heavy on black locust in Kenosha County. (Wis. Ins. Sur.).

POPLAR-AND-WILLOW BORER (Cryptorhynchus lapathi) - OREGON - Larval damage on pussy willow July 8 at south Salem, Marion County. Earlier instars predominate. Small larvae just beneath bark in galleries about 6 inches apart. Few fully grown larvae in heartwood. Dead, wilting, and broken branches apparent in several areas. (Penrose).

BIRCH LEAF MINER (Fenusa pusilla) - WISCONSIN - Damage increasingly apparent on ornamental birch in Chippewa, Dodge, Eau Claire, Kewaunee, Juneau, Walworth, Dane, Winnebago, Iowa, and Price Counties. Some treatment underway. (Wis. Ins. Sur.).

WOOLLY ALDER APHID (Prociphilus tessellatus) - MASSACHUSETTS - Nymphs and adults severe on Hampshire County maple. (Jensen). NEW HAMPSHIRE - Very numerous on silver maple at Exeter, Rockingham County. (Conklin).

EUROPEAN ELM SCALE (Gossyparia spuria) - CALIFORNIA - Adults averaged 10 per elm stem in Trowbridge, Sutter County, and on Sacramento County elms. Crawlers emerging. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - Total of 17 cases reported in U.S. July 5-11 as follows: TEXAS - Brewster 4, Medina 1, Pecos 2, Presidio 1, Terrell 6, Uvalde 1, Irion 1. ARIZONA - Santa Cruz 1. Total of 56 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Baja California 1, Sonora 28, Chihuahua 19, Coahuila 2, Nuevo Leon 5, Tamaulipas 1. Total of 23 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 53,168,000; New Mexico 1,760,000; Arizona 15,395,000; California 360,000; Mexico 86,455,000. (Anim. Health Div.).

HORN FLY (Haematobia irritans) - UTAH - Increasingly numerous on Box Elder and Weber County cattle. Lighter than at this time in 1969. (Knowlton). IDAHO - Counts per side ranged from few to herd averages of 150 or more statewide. Averages July 1 less than 10 per side on treated herds and up to 135 per side on untreated herds at Moscow and Potlatch, Latah County. (O'Keeffe). WYOMING - Increasing, 20-130 per head on 3 cattle herds in Goshen and Platte Counties week of July 3. Currently annoying, averaged 110 per head on 4 cattle herds in Sheridan, Weston, and Crook Counties. (Parshall). OKLAHOMA - Heavy in Cotton and Craig Counties. Moderate in Mayes, Cleveland, and Okmulgee Counties. Light in Ottawa County.

(Okla. Coop. Sur.). WISCONSIN - Annoyance to cattle generally moderate; severe on some farms in Clark County. (Wis. Ins. Sur.). MARYLAND - Heaviest counts averaged 34 per head on 131 Holsteins near Frederick, Frederick County. (U. Md., Ent. Dept.). VERMONT - Numbers lighter than before prolonged dry weather. (Nielsen, July 8).

FACE FLY (Musca autumnalis) - IDAHO - Annoyed pasture cattle in Latah County and surrounding area. Ranged from few to 40 per face. (O'Keeffe). TENNESSEE - Heavy, up to 20+ per animal checked in Johnson County. (Gordon). WISCONSIN - Annoyance to cattle generally light, but moderate to severe in Price and Clark Counties. (Wis. Ins. Sur.). VERMONT - Increasing but still not high. (Nielsen, July 8).

HOUSE FLY (Musca domestica) - WISCONSIN - Very numerous and troublesome near exposed food, garbage, or manure. Generally heavy in and around cattle barns statewide. Treatment underway on most cattle farms. (Wis. Ins. Sur.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Annoyance to cattle generally moderate, but ranged from very light in Outagamie County to severe in Clark and Calumet Counties. Dusted Herefords in south Dane County averaged about 10 per leg with only slight annoyance at 70° F. Increased in Walworth County. (Wis. Ins. Sur.). VERMONT - Increasing, especially where manure stockpiled to avoid spring nitrogen runoff as an antipollution practice. (Nielsen, July 8).

TABANID FLIES - UTAH - Tabanus punctifer and Chrysops fulvaster annoying horses at Logan and elsewhere in Cache, Box Elder, and Weber Counties. (Knowlton). WYOMING - Tabanus spp. 1-8 per head on cattle and horses in Sheridan, Weston, and Crook Counties. (Parshall). OKLAHOMA - Tabanus spp. averaged 10 per head on horses checked in Lincoln County. (Okla. Coop. Sur.). WISCONSIN - Horse flies and deer flies numerous statewide, especially near water. Annoyance to humans severe in some areas. (Wis. Ins. Sur.). INDIANA - T. atratus (black horse fly) and Tabanus sp. about 6 per cattle head in Pike County. (Meyer).

MOSQUITOES - UTAH - Numerous and very annoying in Morgan City and several Morgan, Cache, Piute, Box Elder, and Utah County communities. (Knowlton et al.). Very troublesome at Pelican Lake, Uintah County. (Petty). Extremely troublesome at Manti, Sanpete County. Aerial sprays effective at Price and Wellington, Carbon County, but only fair at Moab, Grand County. (Roberts). ARKANSAS - Mostly Psorophora confinnis heavy; annoying in local areas of Lonoke County. As high as 26,000 per night in light trap catches. Anopheles spp. and Culex spp. as high as 1,000 and 84 respectively per night. (Meisch). MINNESOTA - Aedes vexans 92 percent of 33,000+ females in light traps at Minneapolis and St. Paul week ending July 3. Coquillettidia perturbans 4 percent of total and 86 Culex tarsalis taken. A. vexans 85-90 percent of total in daytime and evening bite collections. In daytime collections A. trivittatus totaled 159 specimens and Coquillettidia 12. Adults should decline significantly with continued warm weather. (Minn. Pest Rpt.). WISCONSIN - Biting still bothersome statewide. Definite decrease apparent at most sites in south half of State. Biting very heavy at several sites in extreme north area; discouraged fishermen in some areas of Vilas County. A. vexans main biter in south area. A. sticticus, A. trivittatus, and occasionally A. cinereus common locally. Absence of appreciable rainfall past 3 weeks dried most breeding pools. Severely annoyed cattle in most counties. (Wis. Ins. Sur.). OHIO - Aedes sollicitans serious around Mentor, Lake County, and Rittman, Wayne County. First case of California encephalitis for 1970 in central area. (Ohio Dept. of Health). Mosquitoes 5-93 (averaged 41) per trap per night in Franklin County July 6-7. (Roach et al.). RHODE ISLAND - Aedes spp. and Culex sp. annoying statewide. (Field).

A BITING MIDGE (Leptoconops kerteszi) - UTAH - Still annoying on Antelope Island, Davis County, and around Great Salt Lake. Much more troublesome earlier this spring. (Knowlton, Davis). Annoying in many localities. (Petty).

AN EPHYDRID FLY (Ephydra gracilis) - UTAH - This and Ephydra spp. only 10 percent as numerous as at this time in 1969 on shores of Antelope Island, Davis County. Determined by W.J. Hanson. (Davis, Knowlton).

BUCK MOTH (Hemileuca maia) - MARYLAND - First injury of season from handling of larvae reported in Charles County. (U. Md., Ent. Dept.).

HOG LOUSE (Haematopinus suis) - CALIFORNIA - Infested swine on ranch at Chino, San Bernardino County. (Cal. Coop. Rpt.).

MITES - OHIO - Found 7 species in nursing home in north-central area. Those causing dermatitis in man: Psoroptes equi (scab mite), Ornithonyssus sylviarum (northern fowl mite), and Dermanyssus gallinae (chicken mite). (Roach et al.).

HOUSEHOLDS AND STRUCTURES

A STINK BUG (Corimelaena pulicaria) - SOUTH CAROLINA - Thousands migrating out of grain fields into adjacent homes. First report of this abundance in Greenwood County. (Bryson, Nettles).

BENEFICIAL INSECTS

LADY BEETLES - TEXAS - Hippodamia convergens (convergent lady beetle) adults averaged 2 per 100 sweeps on early peaches in Erath County. (Morrison). OKLAHOMA - H. convergens moderate on aphid-infested sorghum in northeast area and in Payne County. Scymnus sp. moderate on sorghum in Payne County and light in northeast counties. (Okla. Coop. Sur.). COLORADO - Adults and immatures of H. convergens and other species active statewide. Adults and larvae 50-150 per 100 sweeps of alfalfa (0-3 per plant on corn, sorghum, beets, beans, and potatoes) in northeast area. Feeding heavily on aphids in Arkansas Valley and in orchard cover crops of Mesa County. (Burchett et al.). WYOMING - Lady beetle adults and larvae 2-12 (averaged 4) per 10 sweeps of alfalfa in Goshen, Laramie, and Platte Counties week of July 3. Adults and larvae currently 0-12 per 10 sweeps of alfalfa in Crook, Weston, Campbell, Sheridan, and Johnson Counties. (Parshall).

A WEEVIL (Gymnaetron teter) - OREGON - Common on mullein throughout south Jackson County, from Medford to California State line. (Westcott).

A CHRYSOMELID BEETLE (Chrysolina sp.) - OREGON - Locally abundant on goatweed in Benton and Jackson Counties with particularly large numbers in vicinity of Siskiyou, Jackson County. (Westcott, Penrose).

GREEN LACEWINGS (Chrysopa spp.) - TEXAS - Adults averaged 25 per 100 sweeps in early peaches. (Morrison). COLORADO - Chrysopa spp., various reduviids, and other predators very active statewide. Ranged 10-50 per 100 sweeps of alfalfa; variable on other crops. (Johnson, Burchett).

DAMSEL BUGS (Nabis spp.) - TEXAS - Nabis sp. adults averaged 1 per 100 sweeps of peaches in Erath County. (Morrison). COLORADO - N. ferus and other species 50-100 per 100 sweeps of northeast area alfalfa. Damsel bugs and lady beetles keeping aphid populations in check in Cheyenne, Kit Carson, Yuma, Phillips, Sedgwick, and Logan Counties. (Johnson). WYOMING - Nabis sp. adults and nymphs averaged 4 per 10 sweeps of alfalfa in Crook, Weston, Campbell, Sheridan, and Johnson Counties. (Parshall).

BIG-EYED BUGS (Geocoris spp.) - OKLAHOMA - Adults common on northeast area soybeans although very few harmful insects present. (Okla. Coop. Sur.).

A BRACONID (Lysiphlebus testaceipes) - OKLAHOMA - Greenbug mummies light on Ottawa County sorghum. Not seen in other northeast counties. Increasing on Payne County sorghums. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Catches on wing traps decreased past 2 weeks. Very light square damage in older plots below Caprock. (Clymer, Rummel). For Boll Weevil in other areas see page 495.

CEREAL LEAF BEETLE (Oulema melanopus) - ILLINOIS - Adults light on oats on farm in Fayette County for a new county record. Collected by A. Sanders June 2. Determined by R.E. White. (PPD). INDIANA - Adult emergence past peak at New Carlisle, St. Joseph County. (Shade). MICHIGAN - Controls for season ended in State. (Ruppel, July 6). NEW YORK - Damage in every oatfield inspected in west counties. (N.Y. Wkly. Rpt., July 6).

GRASSHOPPERS - NEVADA - Mostly adults of Aulocara ellioti and Oedaleonotus enigma 8-15 per square yard on localized, scattered areas of rangeland and wheat-grass seedings south of Oroville, Humboldt County. (Lundahl, Peters). Mostly Melanoplus sanguinipes nymphs moving into alfalfa hay from abandoned farmland in Diamond Valley, Eureka County. Counts on edges up to 50+ per square yard and on margins 12-15 per square yard. (Hampton, Martinelli). UTAH - Few in Cache County small grains generally. (Knowlton). Moderately numerous at Hanksville, Wayne County. (Roberts). Nymphs spottedly numerous on Antelope Island, Davis County. (Knowlton, Davis). Light in Uintah, Duchesne, and Daggett Counties. (Petty). NEW MEXICO - Heavy on turnrows and outer edges of alfalfa fields in Bernalillo and Valencia Counties. Some damage in alfalfa. (Heninger). COLORADO - M. bivittatus, M. femurrubrum, and other species vary considerably throughout State. Ranged 0-10 per square yard in cropland margins in northeast area. In some cases moved into adjacent crops, damage ranged trace to very light. First and second instars heavy in cropland margins in Mesa County following hot weather in June. (Johnson, Sisson). WYOMING - A 95-percent kill obtained with an organic phosphate applied to 10,392 acres in Goshen County and 840 acres in Converse County July 2-3. Aulocara ellioti, Amphitornus coloradus, Cordillacris occipitalis, and Ageneotettix deorum dominant. (Daiss). IOWA - M. differentialis 5-10 per square yard in roadsides in western half of State. Heavy, 100+ per square yard in spots. Some farmers treating. (Iowa Ins. Sur.). MINNESOTA - M. femurrubrum hatch past peak in south half of State. Nymphs in first to third instars, mostly second. Warm, dry weather favored nymphal survival. Eight or more per square yard in Otter Tail, Rock, and Carver Counties. Margin counts of 10-27 per square yard in widely scattered locations. Moving from hatching areas into corn, soybeans, and small grain. Margin damage in some soybean fields in Wright and Carver Counties noticeable but not economic. M. bivittatus third instar to adult. Fungus disease in 2 fields in Carver and Wright Counties killed several M. bivittatus; no effect on other species. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - Heavily to completely defoliated 7,000-8,000 acres in Monroe County this year; 800 acres untreated at this location in 1969. Feeding on oak, yellow-poplar, ash, wild flowers, grass, and plastic flagging used to mark study plots. Completely stripped oaks, maples, sassafras, black gum, pines, and hemlock in study plots. Estimated 1 million acres in State supporting very light to moderate populations. (Nichols, Quimby, June 30). NEW HAMPSHIRE - Pupation July 8 in Carroll, Rockingham, and Strafford Counties. (Mason, Conklin).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Emergence throughout known infested area. Damage very heavy in localized areas of Johnson and Sullivan Counties. (Hammett). VIRGINIA - Adult damage less severe in 1970 than in previous 2 years in most areas. (Allen). INDIANA - First adults in traps July 1 at Fort Wayne, Allen County. Previously noticeable only in east half of Logansport, Cass County, adults now occupy entire city, and in larger numbers than usual. (Lehker). OHIO - Heavy on wild grape, trees, and shrubs in west Washington County. Heavy numbers feeding on heads in oatfields in north Lawrence County. (Roach et al.). NEW JERSEY - Feeding on several ornamental plants in central counties. Heavy at Hightstown, Mercer County. (Ins.-Dis. Newsltr.). CONNECTICUT - Feeding on variety of plants. (Savos, July 8) RHODE ISLAND - First adults in Kent County July 5 (Relli), and in Washington County July 8 (Mathewson). NEW HAMPSHIRE - Adults active at Concord, Merrimack County. (Mason, Hutchins).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Sterile moth releases July 2-9: Coachella Valley 6,944,250, total to date 64,983,250; Bakersfield 1,400,000, total to date 14,771,700. ARIZONA - Sterile moths released at Redington, Yuma County, 112,500; total to date 674,800. (PPD). Larvae 0-4 per 100 blooms at Safford, Graham County. Fourth instars averaged 1-2 per 100 plants with rosetted blooms at Marana, Pima County. Infestations 5-8 percent at Yuma, Yuma County. (Ariz. Coop. Sur.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - VIRGINIA - G. leucoloma fecundus adults light on tobacco at Chestnut Level, Pittsylvania County, for a new county record. Collected by H.S. Miller and W. Brown July 8. Determined by R.E. Warner. (PPD). MISSOURI - First adults of G. leucoloma striatus emerged June 18. Counts June 23 averaged 2 per plant on 2 acres of wild aster at Cardwell, Dunklin County. (Maddox).

CORRECTIONS

CEIR 20(24):390 - PERIODICAL CICADAS (Magicialada spp.) - PENNSYLVANIA - Magicialada sp. heavily damaged forest trees May 26 . . . should be Magicialada sp. adults heavy on forest trees May 26 . . . (Sleesman, Simons).

CEIR 20(27):440 - POTATO PSYLLID (Paratrioza cockerelli) - TENNESSEE - Delete entire note.

CEIR 20(27):440 - EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - . . . as high as 10 percent . . . should read . . . as high as 100 percent . . .

CEIR 20(27):442 - ALFALFA WEEVIL (Hypera postica) - NEW HAMPSHIRE should read MASSACHUSETTS.

CEIR 20(27):443 - MEADOW SPITTLEBUG (Philaenus spumarius) - NEW HAMPSHIRE should read MASSACHUSETTS.

CEIR 20(28):480 - PINE SPITTLEBUG (Aphrophora parallela) - OREGON - Should read A SPITTLEBUG (A. permutata). Determined by P. Oman. (Penrose).

CEIR 20(28):488 - Alfalfa weevil map in error. For corrected map see CEIR 20(29):508.

HAWAII INSECT REPORT

Corn - CORN EARWORM (Heliothis zea) damaged 90 percent of ears in one acre of sweet corn at Lihue, Kauai. (Sugawa).

Fruits and Nuts - COCONUT SCALE (Aspidiotus destructor) colonies light to moderate on older leaves of about 60 percent of 0.5 acre of banana plants at Waimanalo, Oahu. Predators nil. Light, spotty colonies on 1-4 leaves of every plant in 0.5 acre of old papaya trees at Hakipuu, Oahu; only on some trees, 2 months ago. Apparently spreading in both fields. (Au, Kawamura). FULLER ROSE WEEVIL (Pantomorus cervinus) adults light to moderate on 5 percent of 5-foot macadamia plants in 100 acres at Pahala, Hawaii; as many as 6 beetles on few terminals. Trace in 100 acres of 2-year-old citrus plants at Puueo, South Point, Hawaii. Heavy on roadside koa-haole (Leucaena leucocephala) at Pahala; as many as 13 adults per terminal caused severe defoliation of some plants. THREE-LINED POTATO BEETLE (Lema trilineata) adults light to moderate, averaged 9 per plant, in 100-square foot planting of poha (Physalis peruviana) at Puueo, South Point; eggs trace. (Matayoshi).

Ornamentals - SOUTHERN GREEN STINK BUG (Nezara viridula) nymphs and adults trace to light on flowers and buds in 0.25 acre of Vanda joaquim at Waimanalo, Oahu; 3 of 6 bugs bore eggs of a TACHINA FLY (Trichopoda sp.). All stages light in one acre of sweet corn and yardlongbeans at Lihue. (Sugawa, Kawamura).

Beneficial Insects - Parasitism by a BRACONID (Opius sp.) of BEAN FLY (Melanagromyza phaseoli) infesting cowpeas on Kauai: 23 percent at Kapaa, 69 percent at Mana, and 42 percent at Kaumakani. (Sugawa). Activity of a PUNCTURE-VINE STEM WEEVIL (Microlarinus lypriformis) in 100 Tribulus terrestris internodes on Maui: 98 percent at Waikapu, 16 percent at Puunene, and nil at Lahaina. No activity in similar samplings of T. cistoides at Waikapu, Kihei, and Lahaina. (Miyahira).

Miscellaneous Pests - CLUSTER FLY (Pollenia rudis) buildup continued at Kahua Ranch, Hawaii. Adults noticeable on several species of flowering trees and in pastures. (Yoshioka).

DETECTION

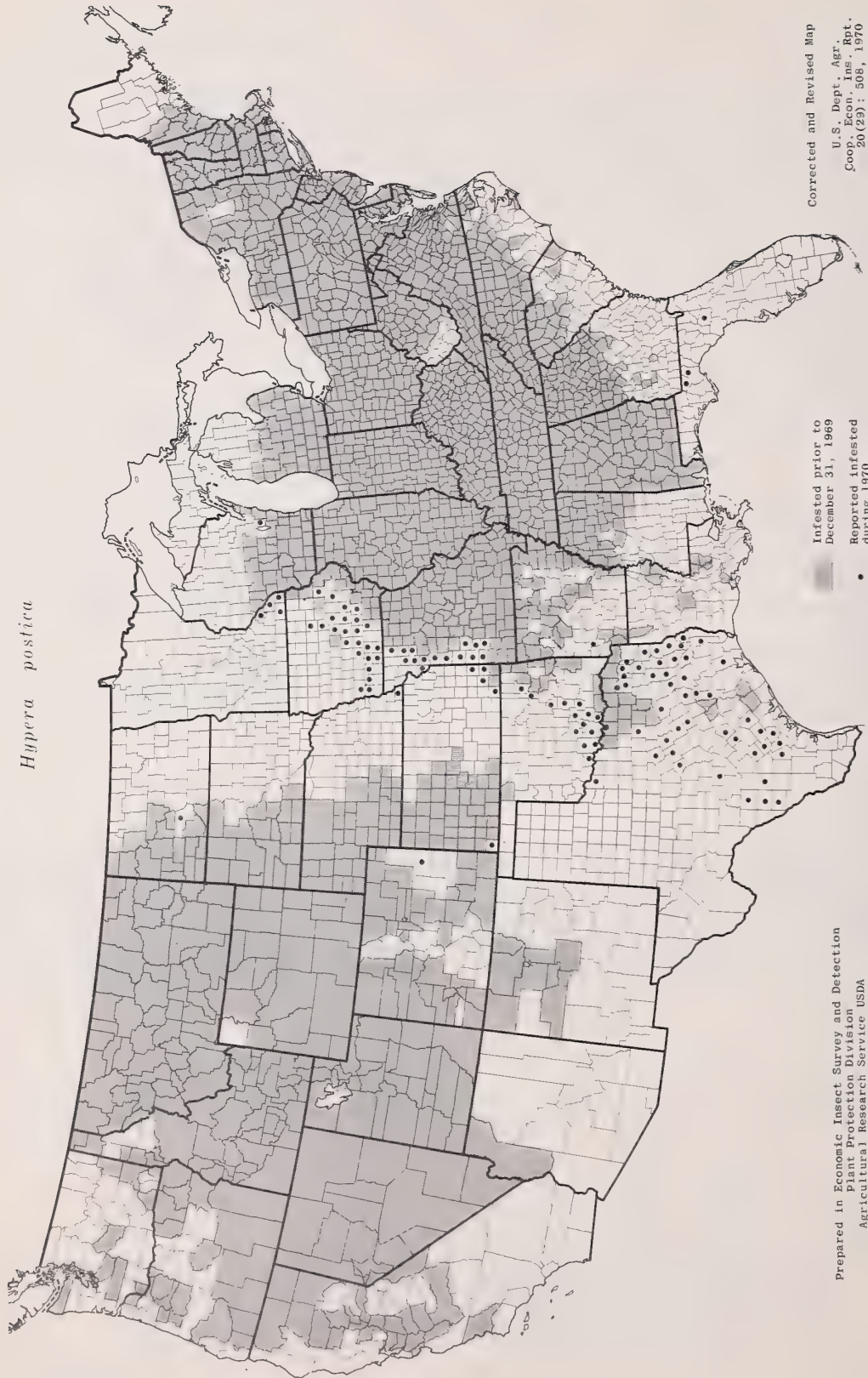
New County Records - ALFALFA WEEVIL (Hypera postica) MINNESOTA - Fillmore, Wabasha; MISSOURI - Platte (p. 494). CEREAL LEAF BEETLE (Oulema melanopus) ILLINOIS - Fayette (p. 504). GLOVER SCALE (Lepidosaphes gloverii) FLORIDA - Broward (p. 498). HOLLYHOCK WEEVIL (Apion longirostre) VIRGINIA - Sussex (p. 499). PURPLE SCALE (Lepidosaphes beckii) FLORIDA - Broward (p. 498). A WHITE-FRINGED BEETLE (Graphognathus leucoloma fecundus) VIRGINIA - Pittsylvania (p. 505). YELLOW SCALE (Aonidiella citrina) FLORIDA - Palm Beach (p. 499).

LIGHT TRAP COLLECTIONS

LIGHT TRAP COLLECTIONS					
	Temperature °F.	Precipitation, inches	Type of trap	Agrotoles teston	
				I = independent N = incandescent O = other	BL = blacklight vapor
					Carpocapsa pomonella (codling moth)
					Choristoneura auxillariae (map cutworm)
					Salt-marsh caterpillar
					Pastora diffusa (wheat head caterpillar)
					Peltia subterranea (granulate cutworm)
					Heliopsis virescens (tobacco budworm)
					D. zea (bollworm, corn earworm, tomato fruitworm)
					Lophostege compositalis (alfalfa webworm)
					Lophostege sticticalis (beet webworm)
					Manduca quinquemaculata (tomato hornworm)
					Manduca sexta (cabbage loopers)
					Ostrinia nubilalis (European corn borer)
					Polydora saucia (variegated cutworm)
					Prodenia ornithogalli (yellow-striped armyworm)
					Pseudostella unipuncta (armyworm)
					Spodoptera eximia (beet armyworm)
					Spodoptera frugiperda (fall armyworm)
					Tritoplusia ni (cabbage looper)
					Crops
FLORIDA					
Gainesville 7/2-9			BL		1
MARYLAND					
Centreville 7/3-9			BL		8
Hurlock 7/2-8			BL	2	
Salisbury 7/2-8			BL	36	
Snow Hill 7/1-8			BL		3
MINNESOTA					
Crookston 7/1-7			BL		6
Fergus Falls 7/1-7			BL		15
Worthington 7/1-7			BL		36
MISSISSIPPI					
Stoneville 7/3-9	60-102	0.73	2BL		2
MISSOURI (County) Platte 7/3-6			BL		6
NEBRASKA					
Lincoln 7/4-10					87
NEW HAMPSHIRE					
Durham 7/7			BL		6
NEW JERSEY					
Cedarville 7/6-8			BL	9	
Evesboro 7/6-8			BL	3	
Plainsboro 7/6-8			BL		37
NORTH DAKOTA					
Bottineau 7/6			BL		4
Fargo 7/4			BL	3	1
OHIO					
Reynoldsburg 7/2-8			BL	43	2
TEXAS					
Waco 7/3-9					49
WISCONSIN					
Platteville 6/30-7/7			BL	8	263

Distribution of Alfalfa Weevil

Hypera postica



Prepared in Economic Insect Survey and Detection
Plant Protection Division
Agricultural Research Service USDA
July 10, 1970

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OFFICIAL BUSINESS



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